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Non-anchors Aweigh¹

I have made a distinction between *anchor experiences* that motivate behavior, like pleasure or pain, and *non-anchor experiences*, like sight and sound, that do not directly motivate behavior. The former are feelings or emotions that have a direct effect on behavior, and the latter are purely informative sensations that only have an indirect effect. Sensations such as touch, taste, and smell can be either anchor or non-anchor experiences, depending on context.

The first chapter suggested a mechanism that allows the anchor experiences of pleasure and pain to be introduced into biological evolution. The introduction of other anchors, such as fear or desire, is more problematic and depends to a large extent on the prior introduction of non-anchor experiences, which is even more problematic. A possible way to overcome these difficulties is proposed in this chapter.

Introducing Fear

Introducing pain consciousness into a species is an evolutionary step that we suppose makes use of the mechanism outlined in Chapter 1. Introducing fear is a separate evolutionary step that supposedly uses the same mechanism; however, fear cannot exist by itself as pain can. Pain can stand alone without any other conscious experience in the foreground or background, but fear cannot do that. There must always be something else in play that is the object of fear. Sophisticated creatures (like humans) may imagine that they experience “disembodied fear,” but that is generally deceiving. Primitive creatures are surely not capable of fear apart

¹ This chapter is taken from [Mould 2009b] with some modification.

from something provocative that appears in their immediate experience – namely, that which they fear².

Difficulties arise if we imagine that the fanciful fish of Chapter 1 learns to fear something *in its field of view*, like the tentacles of a jellyfish. For that to happen, the fish must be able to see the tentacles as well as know that they are potentially painful. But sequencing these experiences (seeing, pain, and fear) and filling in the gaps between them requires steps that the proposed mechanism does not obviously accommodate. There are five potential steps from visual contact to fearful avoidance.

The Five-step Scenario (Example of a Primitive Fish)

1. The fish evolves a conscious visual image of the jellyfish's tentacles.
2. The fish learns to associate this image with physical contact.
3. The fish learns to associate steps 1 and 2 with conscious pain.
4. The fish associates steps 1 through 3 with the new experience of conscious fear.
5. The fish learns to avoid the jellyfish through fear, inasmuch as fear also drives evolution by supporting avoidance behavior.

Step 1 assumes a prior (pre-conscious) evolution of photon receptors, such as eyes, optical nerves, and so on. The visual awareness implicit in this step is an additional development that serves no evolutionary purpose if it does not include step 5, and this form of consciousness does not immediately imply step 5. So although the five steps taken together may provide an evolutionary advantage to the fish, their occurring simultaneously as a single developmental step seems improbable. That improbability might be overcome by increasing the number of situations in which conscious vision can play a connecting role, and by increasing the number of anchors that are involved.

² I exclude the possibility that the object of fear might be a memory of pain. I think that is much too sophisticated a process for a primitive creature.

Other Anchors

As previously mentioned, there are several sensations that can act as either anchor or non-anchor experiences, such as touch, taste, and smell. Touch, for instance, can locate things in space without an implicit causal consequence, and to that extent it is a non-anchor experience. It can also provide a motivational stimulus through pleasurable or painful tactual contact, and to that extent it is an anchor experience. Taste and smell have similar dual roles. They can inform or motivate. In the following, I will be careful to specify the context by reference to the anchor or non-anchor properties of these sensations.

Hunger is a believable anchor inasmuch as it has an intrinsic motivational authority. It is a conscious experience that we imagine has a positive effect on the hunting behavior at a time when the creature needs to be actively looking for food.

The anchor experience of *taste* provides an intrinsic motivation with a positive or negative polarity. It has a positive influence on eating behavior when the organism benefits from the food in question, and a negative influence when the food is harmful. As with all of the polarities established by anchors, a wrong association (i.e., coupling a positive influence with harmful food) will threaten the survival of the species, so natural selection favors an *appropriate* association of subjective states with physiological states. *Smell* also has definite positive and negative motivating properties. It can attract us to, or warn us away from, food.

Anchor Clusters

There are now six prospective anchor experiences: pleasure, pain, fear, hunger, taste, and smell, where each is a separately installed mutation that is capable of affecting the direction of the evolution of a species. There is quite a large gap between pain and fear, as we have seen, but there is not a large gap between clusters that include hunger, taste, and smell. So we can imagine an evolutionary scenario that begins with just these three in some combination.

Since the hunger for food and the smell of food very often occur simultaneously, it is likely that they will reinforce each other. If hunger represses inactive behavior, and if the right smell enhances active hunting behavior, then the two together should provide a powerful incentive to hunt. They can occur separately, and they certainly must have been introduced separately, but the pair function as a cluster in many situations.

Good smell and good taste might also become associated with each other at the time of a kill. Couple this with a fading of aversive hunger, and the combination is a compelling conscious experience. The introduction of taste as another evolutionary step will cement this cluster of three.

Fear and smell consciousness might be aroused simultaneously in the presence of a predator, thereby bringing fear into the established cluster. Here then is a shortcut to fear that does not involve a problematic non-anchor, like vision.

The anchors of hunger, taste, smell, fear, plus pleasure and pain, therefore provide a cluster around which other anchors and other elements of consciousness can become attached. It is entirely possible that the construction of visual, auditory, and tactual images will first emerge around this cluster of anchor experiences rather than with pain alone, as in steps 1 through 5. If while hunting and feeding, the creature begins to have new experiences identifiable as sights, sounds, or touches, and if these are associated with the predators, prey, and other objects in the creature's environment, and if this association reinforces the anchor experiences within the cluster that directly influences behavior, then these newly introduced non-anchor experiences should be supportive of the species. As visual, acoustic, and tactual experiences become more and more sophisticated, they will allow the construction of images of the external world that are in accord with the psychophysical parallelism. This construction does not have to be a single step in evolution. It could very well be a gradual process that is brought on at every point by established conscious clusters. The above five-step scenario would then be replaced by a process that spreads step 1 out over the remaining four steps.

Other scenarios are possible that are centered on sex and/or parenting, both of which provide strongly positive motivations that have their roots in pre-conscious evolution. Indeed, any clear instinct or emotion has the potential to become an experiential anchor, and any anchor or group of anchors has the potential to become a cluster of consciousness that can support other (non-anchor) subjective elements, images, and ultimately ideas about the physical world.

Anchor/Image Interdependence

Anger is another anchor experience. It plays a role in aggressive behavior, such as defending turf or fighting for dominance within a herd. It is an emotion that emerges as a separate evolutionary step, giving us a total of seven independent anchors.

However, there is a curious interdependence between anger and fear that is reflected in the body's fight or flight mechanism. The creature must evaluate a threatening situation and decide whether it is best to make a stand, or to quit the field. It must decide if it should give in to its fear, or get angry. This is a matter of deciding which anchor to engage, and hence, which behavior to enhance. The implication is that the non-anchor images that are created in conjunction with established anchors can subsequently be used to evaluate an objective situation, and decide in favor of one anchor or another.